A Survey On The Relationship Between Q192R Mutation In Paraoxonase1 Gene And esophageal Cancer In Ardabil Provience

Abstract:

Background: Paraoxonase1(PON1) is a protein-coding gene with esterase activity actuate the researchers to study about its relationship to cancer susceptibility. This association was found among some previous studies. In the present investigation, the value of polymorphism Q192R which tends to increase in the enzyme activity as a predictive value for esophageal cancer among Ardabil was assayed.

Material & Methods: We enrolled 100 patients and sex, age and residency matched with healthy participants as controls. After exctraction of DNA, by routine Phenol-Chloroform method, the desired PON1 gene segment was amplified by PCR, and genotyping of Q and R alleles was carried out by digestion of the amplified fragments with restriction enzyme BspPI.

Results: The distribution of genotypes among cases were 10.6%, 77.7% and 11.7% for QQ, QR and RR, respectively and 11.9%, 53.6% and 34.5% for QQ, QR and RR in the controls. Inspite of finding significancy for decreasing in cancer susceptibility among homozygous women(P: 0.015). it was not detected in comparison with cases and controls.

Conclusion: Increasing enzyme activity as a result of Q192R substitution, could be expected to have decreasing effects on cancer susceptibility, with due to higher numbers of RR among controls, compared to cases, that was found in the present study.

Keywords: esophagus cancer, Polymorphism, Paraoxonase1, Q192R